



REPORT OF THE

Future of Work Commission

EXECUTIVE SUMMARY

Work is more than simply a factor in the process of production, like capital or land. It isn't just something people do in between leisure, family life and sleep, or just to pay the bills. Good work is part of people's identities. It enriches our lives, and enables us to be fuller and better citizens. It reminds us that we – as individuals, communities, and a society – build our own future.

That means that questions about the future of work – questions about how work is changing – are political questions as well as economic ones. Changes to work cannot be left for market forces alone to shape, or thought of purely as business decisions. They affect all of us. And the governments we elect have a responsibility to make sure that the work and lives of the citizens they represent are enhanced, rather than diminished, by technological innovation.

The technological revolution is behind some of the most challenging social and economic trends which bear on work in Britain. These trends describe reality *now* for many people across the UK: falling real wages, increasing inequality and the growth of a vulnerable workforce. These are not the inevitable consequences of technological change, but of the failure of governments to face up to this responsibility.

New technology has vast potential to change the work and lives of all our citizens for the better. A sharper and more consistent focus on good work is the best way to generate and spread the benefits of technological innovation and build a genuinely inclusive economy. ***Now, more than ever, this is a moral, social and economic imperative.***

At present, productivity is falling and the benefits of technological innovation are not fairly shared. We need bold, integrated and consistent policy action to grasp opportunities, buck trends, and avoid pitfalls. We need to shape the industries of the future and create good, fairly-paid work for our citizens. ***We can be optimistic about the future of work in Britain, but we must act now.***

OUR PRINCIPLES

What is good work, and why does it matter? This report begins from first principles, derived from evidence and public dialogue we have considered. We need to recognise and value these principles to protect key aspects of good work into the future. Knowing what good work means is especially important through a period of transition.

We believe that:

- Work is **valuable in itself**
- Work should provide **dignity**
- Work should offer **security**
- Work should promote **autonomy**
- Good work should be **available to everyone**



Work is valuable in itself – and not just as a source of income. Work is part of our identities as individuals and communities, our sense of purpose, and one of the most important means by which citizens contribute to our collective life. Work matters.

Work should provide dignity – we must pay more attention to the respect, as well as the income, workers receive for their jobs. Our research suggests that dignity and fulfilment in the British workplace is decreasing. The value of many workers whose jobs are essential to the functioning of our society is not sufficiently recognised.

Work should offer security – so that workers can depend on a fair and predictable income, and are not exploited or forced to assume a burden of risks they cannot bear. The evidence we have examined suggests that new patterns of work and business have tipped the balance of the labour market towards insecurity, and the balance of risk towards workers.

Work should promote autonomy – workers must be able to make choices about their work and their futures, to exercise creativity and judgement. Workers are not robots; people work best when they can choose how to fulfil their potential, and have an effective voice in the workplace. A flexible labour market should offer autonomy to working people, as well as to employers.

Good work should be available to everyone – not the preserve of a small proportion of higher-income earners, and not limited by social and economic circumstances, gender, race, or disability. Not everyone is able to work or needs the same kind of work, but good quality work should be accessible to every citizen.

THE TRENDS

Innovations in digitisation, computing, artificial intelligence (AI) and robotics lie behind many wider transformations in our economy and labour market which we are already experiencing. We think that both the scope and pace of the current technological revolution are likely to be *at least* as great as any that has gone before.

First, recent advances make it possible to automate a much greater range of tasks than those enabled by previous developments. This means that the current wave of automation will reach into sections of our economy that have traditionally been considered “safe”, including jobs which involve complex cognitive or analytic tasks. *New technologies are increasingly capable and pervasive.*

Second, the pace of technological advance has increased, and the fusion of new technologies – in particular, recent developments in *machine learning combined with the data explosion* – may make change faster than before.

Making accurate predictions about the speed and extent of automation is not easy. Our research suggests that the impacts and risks of technological change are not widely understood, and that workers and employees hold different views about the likelihood and pace of automation in particular spheres. Automation will undoubtedly affect

'We must build a future where technology is used to enhance workers, not replace them.'

*John Evans,
Commissioner*

different sectors and regions in very different ways. Nevertheless, we have identified the following trends in the UK labour market:

Labour market polarisation, driven by the automation of routine tasks, is likely to reduce. Routine tasks have traditionally been more vulnerable to automation than non-routine ones, which do not follow rules that can be explicitly stated and followed. But as artificial intelligence develops, the automation of non-routine analytical tasks is likely to increase. *Tasks that are less vulnerable to automation involve our most human qualities: creativity, care, teamwork, critical-thinking and imagination.*

Without policy intervention, the power of the high-skilled over the low-skilled will increase further. Technological change is likely to both raise the productivity of high-skill workers and increase competition for low-skill jobs which are not susceptible to automation. Low-skill workers, who make up 45 percent of the labour market, are particularly vulnerable. Without intervention, low skilled workers are at risk of a severe and sustained decline in their wages. *Workers at risk of displacement need a new education and skills system which focuses on lifelong learning and offers extensive opportunities to retrain.*

The average working week is likely to reduce. The average working week in the UK has fallen from about 50 hours per week in 1900 to just above 30 hours today. In the future, in spite of this year's flat trend in average hours, we can expect average working hours to decline further. People who work fewer hours tend to be more productive; as working time increases, average output per hour decreases. *We should aspire to a labour market which offers more leisure time, and still offers good work to everyone.*

But mass technological unemployment is highly unlikely. There is no substantive evidence that Britain is heading towards widespread technological unemployment, exaggeration is unhelpful. We need a more nuanced debate about the impact and potential of automation – one that recognises that technological change is already having social and economic effects. The main problem we face is not the number or availability of jobs but their productivity and quality. *We must focus on how best to increase levels of human and capital investment, spread the benefits of technological innovation, and create good work.*

New patterns of work have become more common. "Atypical workers" – those not on standard employment contracts – now account for a significant proportion of the UK workforce, with 5 million self-employed workers, 900,000 workers on zero-hours contracts, and 800,000 agency workers. Recent research suggests the pattern of increasing atypical work may be slowing. But the size of this vulnerable workforce hasn't diminished. *We must ensure our legal framework does not favour atypical work, to ensure these new forms of work are good jobs, rather than a last resort to avoid unemployment. And new forms of working may need new forms of collective voice, alongside traditional ones, to rebalance labour relations in Britain.*

Britain is becoming more entrepreneurial but is held back by low levels of public and private investment. Early stage enterprise is not translating into sustained growth or higher levels of good work.

'Britain is becoming more entrepreneurial and the opportunities for innovation growth pathways are vast. We must seize them.'

*Naomi Climer,
Commissioner*

Britain's early enterprise rate is particularly strong in tech-related industries including AI, data analytics and robotics. Four out of five of the world's biggest AI start-up acquisitions over the last five years involved purchases of UK start-ups by global corporates, meaning that the gains do not continue to flow into the British economy. We need to encourage tech start-ups to become expanding businesses based in the UK: we would like to see a British 'Apple'. *If we address our 'scale-up gap', then our growth levels – and the potential to create good work – would dramatically increase.*

Productivity growth is slowing and decoupling from wage growth.

For the past 20 years, productivity growth has been driven by a small number of sectors and firms. Productivity is the cornerstone of the UK's future GDP growth – and Britain is sinking to the bottom of G7 growth table.³ In line with this, the Office for Budget Responsibility has cut its growth and productivity forecasts sharply.⁴ Just as serious is the more recent trend for wages to grow more slowly than productivity – or not at all. This means that where productivity has risen, there has not been a commensurate rise in wages.

Technological innovation, application and best practice have not dispersed to the long tail of low productivity firms in Britain. *We must support investment in new technologies across the country to address Britain's productivity crisis and low-wage model. As we harness new opportunities, we must make sure that wages rise with gains in productivity.* This feeds into our next observation.

Labour's share is declining and inequality is increasing. The share of national income returned to labour rather than to capital has declined over recent decades in most OECD countries, including the UK. This means that the differential between money made by owning things and money made by working is growing. And since capital is distributed more unevenly than wages, a rising share of income to capital has meant increasing inequality. The Financial Conduct Authority recently found that 25.6 million people in the UK are 'financially vulnerable'.⁵

We think that the technological revolution is the most significant driver of these trends, accounting for about half the decline in labour's share.⁶ Without a robust policy response, inequality will increase further. *We must ensure that the profits from technological progress do not accrue only to those that own and control the capital. Generating good, fairly paid work for everyone is the best way to address this trend.* Good work is work that gives a fair return to workers.

These trends are playing out differently in different sectors and regions. The pace and nature of change will affect all British sectors – but at different rates. Some industries will change faster and diminish in size in the short term – for example, the traditional transport, retail and administration industries. Others will grow – for instance, care and social work. Some will simply change, like health. At the same time, new jobs and some entirely new industries will emerge, such as electric and automated modes of transport. Regional analysis suggests that areas which have already been hit by industrial decline now host sectors most vulnerable to automation – and so may be hit twice.

³ OECD growth forecast November 2017 accessed 4 December 2017. <http://www.oecd.org/eco/outlook/economic-outlook/>. OECD forecasts a drop in growth from 1.5% to 1.2% in 2018 which would put the UK at the bottom of the growth table.

⁴ The Office for Budget Responsibility cut its growth forecast for the UK economy sharply in November 2017, following changes to estimates of productivity. It now expects the economy to grow by 1.5%, down from its previous forecast of 2%

⁵ 4.1 million, mostly between the ages of 25 to 34, were considered to be in 'serious financial difficulty'. The FCA pointed towards a growing 'wealth gap' in British society driving people, especially the young, towards consumer credit. FCA, *Understanding the financial lives of UK adults: Findings from the FCA's Financial Lives Survey 2017*, October 2017

⁶ Weicheng Lian, Mai Chi Dao, and Zsoka Koczan, "Drivers of Declining Labor Share of Income," IMF, (2017)



OUR RECOMMENDATIONS

Our policy recommendations aim to turn our guiding, foundational principles of good work into reality, in light of the trends identified by our research. They are ambitious in their scope and scale. They touch on a broad spectrum of domains that relate to work, wages and the workplace. This is because we believe that to implement our principles in the age of technology, to survive new challenges, maximize opportunity and generate good work for everyone, our economic, social and cultural institutions must change.

We have grouped our recommendations into 6 main areas:

- **Prioritising Good Work**
- **Skills for the Future**
- **Promoting Innovation**
- **New Models: Corporate Governance and Alternative Ownership**
- **Labour Rights and Standards**
- **Ethics**

AREA 1: PRIORITISING GOOD WORK

Because work is central to our lives, families and communities, as well as to the economy, we believe the creation of good work should be at the heart of Britain's public policy agenda, guiding policymaking across government. Public policy should have a new, clearly stated, and simple ambition: to create the social and economic conditions which generate and protect good work in the age of technology.


- To ensure this remains at the heart of national policy development and encourage fresh thinking about how to achieve this goal through the technological revolution, we recommend a new **Charter for Good Work**. This national organising framework would identify the government's commitment to building a future of good work as a central objective of its social and macroeconomic policy, define the components of good work, and set out how those components should be protected. The Charter for Good Work is particularly important because of the uncertainty of individually enforceable workers' rights derived from EU law and the future of the British Human Rights Act. It supports both, and does not substitute for either.
- We recommend the creation of a **Futures Unit** in Whitehall which cuts across departments at Director-General level. The Futures Unit would be headed by a **Chief Futures Officer** and ensure that across all areas, government is abreast of the latest technological developments, builds constructive partnerships with business leaders and academics, responds with more agility to new challenges, and pilots innovative applications across government. Alongside the unit, a Futures Service should be established to train fast-stream civil servants in AI and related technologies.
- Government should initiate the **British equivalent of the German White Paper on the future of work, "Work 4.0"**⁷ to consider and devise a comprehensive national strategy for our future of work in the age of technology, jointly with partners.

⁷ <http://www.bmas.de/EN/Services/Publications/a883-white-paper.html>



- We recommend that all public sector bodies should have a duty to report regularly on **technology/AI strategy**. The current approach to AI in the public sector is haphazard. A duty to consider and report on the use of technology to improve public work and services would focus attention on new opportunities and challenges.
- We recommend the use of public procurement to support good work. The Futures Unit should devise **guidance on the intelligent use of technology** to encourage public sector departments and bodies to consider the use of technology and potential for improvement when procuring goods and services.
- We think that there is merit in exploring options for a **new mandate for the Bank of England** – in particular, to consider extending the remit of the mandate so that the Bank can target inflation, employment and growth as primary objectives. This would allow the Bank to carry out a balancing exercise between inflation, growth and employment; and to consider the availability and cost of credit to buy technology to generate growth and good work. We recommend an open, public debate on updating the Bank’s mandate.
- Government should explore **new types of direct investment** to boost collaboration with the private sector and share risk-taking as part of the innovation ecosystem. This should extend to consideration of ways in which the state may take royalties, revenues, equity or other benefits from their investments. The Chief Futures Officer should advise the government on direct investment.
- The **Equality Act 2010 should be extended** to allow a right to understand the basis for algorithmic decision-making and to prohibit discrimination by algorithms. New technology should be applied to **promote and monitor equality in the workplace**, including **uniform pay gap reporting**, support for girls and women learning STEAM⁸ subjects, and improving job-seeking services for disadvantaged groups. Promoting equality more effectively in the workplace is an important aspect of making sure that good work is available to everyone
- We recommend **expanding the remit of the Office of National Statistics and National Audit Office** to gather and assess the impact of changing working patterns and job quality. The **OECD’s job quality index** should be used and improved to measure our progress towards a future of good work. Government, working with business and trade unions, should develop new measures and tools to understand, predict and respond to change better.
- Alongside these recommendations, we need a **review of the UK approach to capital taxation** with proper consideration of changing returns to capital and labour, and of how the capital tax system could better ensure that productivity gains do not accrue exclusively to those who own or control the capital through the age of technology. The review should include how best to **use the tax code** to restore the relationship between wage increases and productivity gains. There is a tendency towards consolidation in the technology sector, and this is driven by large companies involved in aggressive **tax avoidance**. So specific intervention may be required to ensure

⁸ We use ‘STEAM’ to mean ‘STEM’ subjects (Science, Technology, Engineering and Maths) plus arts subjects.



these companies take a fair share of the effective tax burden. This could pay for new policies aimed at managing disruption and improving access to good work for everyone.

Draft Charter for Good Work

Public policy should aim to achieve the social and economic conditions in which the following principles are effectively realised, to protect the basic components of good work:

- 1) Everyone should have an equal opportunity to earn their living in an occupation into which they enter freely and without discrimination.
- 2) All workers should receive fair remuneration.
- 3) All workers should have working conditions that respect their dignity.
- 4) All workers should have working conditions that respect their autonomy.
- 5) All workers should have safe working conditions which protect physical and mental wellbeing.
- 6) All workers should have an effective and enforceable right to freedom of association.
- 7) All workers should have access to organisations which represent their interests and to institutions which enable them to exercise their rights and enjoy social protection at work.
- 8) Everyone should have facilities for vocational training.
- 9) All workers should have the opportunity to participate in improving their working conditions.
- 10) Everyone should have the right to protection, control and use of their personal data.



AREA 2: SKILLS FOR THE FUTURE

The skills which our labour market demands are changing and will continue to change at ever-increasing speeds. Workers at all skill levels will need to retrain with greater frequency than ever before. We will need future-proof, transferable human skills nurtured from the classroom to ensure that new opportunities are equally accessible, and nobody is left behind. That means schools should prioritise creativity and interpersonal skills alongside digital and tech-related skills, and that lifelong learning is available to everyone. We think that human creativity lies at the heart of the work of the future and a fulfilling work life.

- We recommend that the content of the **school curriculum be changed**, to ensure our approach to education is oriented towards the future, with human creativity at its centre. There should be a **'preparedness for work' objective** in the national curriculum, to ensure that creative subjects feature alongside computer science and data literacies as core competences.
- We should **pilot innovative use of AI technologies in the classroom** to assist teachers in providing more creative, individualised learning programmes, and to explore alternatives to the traditional format of exams.
- A specific **AI curriculum** should be developed in secondary schools, alongside AI-focused vocational, conversion, graduate and post-graduate courses. We think **ethics training** should always be part of AI training.
- We recommend that government should establish a **universal lifelong learning Future Skills account** to enable individuals to learn, re-skill and develop new careers over a lifetime. Government, individuals and businesses should develop and support this account together, in different ways, agreed to reflect changing labour market demands. Existing and new sectoral councils should advise on industry skills needed, anticipated and shortfalls to inform priorities for the Future Skills accounts and reduce skills mismatch.
- We recommend establishing **technical learning trusts** to link the tiers of technical education around a future skills lead, connecting universities, FE colleges, institutes of technical excellence and academy trusts. Local SMEs could be involved in governance and in advisory roles. This framework would help co-ordinate Future Skills programmes, share best practice, and apply research.
- We recommend a **review and reform of the sanctions regime for job-seekers** to avoid unjust sanctions which contribute to downward pressure on wages in some sectors, and discouraging re-skilling. Jobcentres should be given specific additional remits to help support new self-employed workers and part-time workers, and to propose changes to career paths.



AREA 3: PROMOTING INNOVATION

The pace and scope of technological change is increasing, but the pace of productivity growth in the UK has so far remained sluggish. Our evidence suggests that the single biggest problem for growth, and the potential to create good work, is a low level of public and private investment in physical and human capital. This failure is particularly acute with regard to support for investment in new technologies, and in the new technology sectors themselves. In the context of Brexit, Britain risks losing the support of EU R&D and innovation programmes and funds, such as Horizon 2020. We cannot afford to reduce investment which promotes innovation: investment must increase, not decrease. We support the development of integrated, long-term innovation pathways which link skills and R&D spend, regional and national industrial strategies.

- We need a higher **dedicated technology R&D budget set at a fixed percentage of GDP**, to encourage not only the UK's world-class research but also the development of applications to support longer-term growth. This should be part of focusing an increased R&D and innovation spend (in the form of both public grants and incentives for private-sector R&D spending) to the OECD average of 3.5 percent of our GDP by 2030.
- **Tax and business rates regimes should be reformed to incentivise business to invest more in new technologies.** The current scheme is both inadequate and outdated. For example, it does not apply to leasing servers in the cloud, although incentivising cloud-based investment could transform productivity. Some incentives could be enhanced or conditional on the introduction of profit-sharing schemes.
- We recommend policies to **raise the wage floor in Britain.** Government should aim to increase jobs paid above the floor National Living Wage level in the public sector and offer incentives to business to do the same. We support the introduction of joint liabilities for payment of the National Living Wage down supply chains, and stronger penalties for non-compliance. The remit and support for the Director of Labour Market Enforcement should be increased. The public sector pay cap should be lifted. These measures should increase innovation, as well as fair remuneration.
- We recommend adopting a more **accommodating regulatory environment** for experimentation with AI and related technologies on a trial basis, so that the UK is well placed to compete internationally in establishing technology clusters. We recognise the merit in supporting first-mover advantage, although we support a standing Commission to advise on ethics and regulation beyond trial phase.
- We recommend policies to encourage closer R&D **collaboration** between universities, tiers of technical education and business by requiring applicants for R&D grants to demonstrate some consideration of the commercial context. This will increase the prospect of successful scale-up.



- Local government, business, academia and other partners should develop **place-based innovation strategies** for granular, more targeted local policies to encourage growth and the future of good work in local communities. These should be integrated into a mission-orientated national **Industrial Strategy** focusing on national growth areas but addressing the **needs of all sectors**, including those most vulnerable to automation.
- Innovation and productivity are closely linked. We recommend **sectoral productivity councils** aimed at encouraging innovation and the diffusion of new technologies through sectors to the long-tail of low productivity firms. The councils would strengthen cooperation between stakeholders including representatives from business, government, academia and trade unions. They should aim at increasing innovation, productivity and wages together.
- The size and scope of national innovation challenges should be increased significantly, starting with an expansion of Innovate UK's initiative of a Robotics and AI **Industrial Strategy Challenge Fund**.⁹
- We should adopt clearer national guidance and **standards for Open Data** so that uncontroversial public data sets are made more readily accessible and frameworks are developed to govern how restricted users might use more sensitive data without compromising privacy.
- We recommend an independent **review of the application, adequacy and enforcement of competition law principles** in innovation and digital markets. Competition drives innovation. We must make sure that competition law keeps pace with the technological revolution.

AREA 4: NEW MODELS, CORPORATE GOVERNANCE AND ALTERNATIVE OWNERSHIP

Good business models make for good work. To cope with transition and the integration of new technologies into businesses, Britain's framework for corporate governance will need to encourage higher levels of stakeholder participation and the development of future-orientated business strategies. In particular, workers can help businesses adopt and integrate new technologies to make the most of their productivity-boosting potential.

There is good evidence that alternative models of ownership can drive innovation and long-term, sustainable growth, as well as worker participation. Alternative ownership, especially the development of co-operatively owned businesses, is growing, buoyed by demand for a fairer economy. But support is needed for further growth. Our recommendations aim to support a more resilient, productive and entrepreneurial economy, and promote best practice, through the technological revolution.

- We recommend a **new duty on companies to 'involve' stakeholders, which must include workers**. This duty will ensure that all genuine stakeholders are able to have a say in growth strategies realise the goal of meaningful participation in companies' strategic and operational decision-making, especially regarding

⁹ Innovate UK is the UK's innovation agency, an executive non-departmental body sponsored by the Department for Business, Energy and Industrial Strategy



the adoption and integration of new technology. It will encourage investors and workers to apply technology in way that will support our common goals of long-term, sustainable investment in growth and good work.

- Section 172 of the Companies Act 2006 should be reformed so that Directors of public limited companies have statutory **duties to the long-term stewardship** of the company and **consider the interests of all stakeholders**.
- We recommend policies to **support diverse forms of business ownership**. These should include support to publicise and expand different types of employee ownership, government guarantees for buy-outs on the sale of businesses and facilitating access to finance. We should encourage piloting new forms of profit-sharing and ownership in the digital space, for example taxi platform co-operatives.
- **Support for British co-operatives and mutuals** could include improving access to long-term finance, peer-to-peer lending guarantees, enhancing and publicising tax exemptions, and increasing representation in local and national decision-making.
- Statistics mapping alternative ownership, especially employee cooperatives, should be obtained with a view to **annual reports to the BEIS and Treasury Committees** on growth of alternative ownership models.
- We recommend a new **private sector equality duty**, based on the successful public sector equality duty under the Equalities Act, requiring large employers to have 'due regard' to the impact of their decisions on protected groups. This will help ensure diverse representation on Boards and spread new profits.
- There should be **stronger reporting requirements** for companies to cover ownership and workforce contract types, pay, pay ratios, pay gaps, benefits and staff turnover.

AREA 5: LABOUR RIGHTS AND STANDARDS

Patterns of work are changing, including the growth of 'atypical' work and reduced working hours, alongside the broader challenge of growing income inequality, and a growing imbalance of control, risk and income in the labour market.

We need a simple, new, future-proof legal framework, a wider application of existing employee protections, and some additional rights in response to specific challenges related to the technological revolution. We think these rights are needed to apply our foundational principles and Charter through the age of technology. Overall, an intelligent and fairly regulated labour market aimed at supporting a dynamic and flexible national workforce will increase innovation, productivity, resilience – and the components of good work too.

- We recommend **working towards just one category of 'worker'** for enjoying employment protection in UK law. Whether a person is an employee, an agency worker or a contractor should make



no difference to their employment rights. The benefits enjoyed by employees should be enjoyed by all economically dependent workers. We also recommend an incremental increase of basics rights for the genuinely self-employed, including sick and holiday pay and shared parental leave as part of a **new deal for the self-employed**.

- We recommend developing a package of **additional individually enforceable labour rights** to protect fundamental components of the principles and social rights set out in the Charter to offer security and dignity to all remunerated workers in the age of technology. They include working towards new rights including a **freestanding right not be subject to significant decisions based solely on automated processing and a right to algorithmic fairness; and to flexible working and to leave for learning for those working for large employers**. Existing rights to consultation, statutory redundancy and data protection should also be updated.
- We must provide support for **new and emerging forms of worker organisation** - not just those based on the traditional employment model - to represent workers' interest and strengthen the collective voice. We suggest starting with practical support for new models of association and organisations for freelance workers as alternatives to reliance on agencies and platforms.
- We support the formation of a **new representative body for entrepreneurs**. Large technology companies have a strong voice in Whitehall. SMEs, start-ups and entrepreneurs do not. A representative body for entrepreneurs in the UK would give them stronger representation and provide a useful single point of call for interactions with government.
- We should explore new ways to increase trade unions' access to members. This could include **digital, as well as physical, access** to potential members; the use of virtual, as well as physical, communal spaces; new types of membership; new packages relevant to the self-employed such as access to insurance or payment collection; and exploring **virtual or e-unions and branches**.
- **Trade unions should be supported in developing new roles** to ensure that transition is managed in an efficient and socially just manner – for example, by initiating technology agreements aimed at the cooperative introduction of new technology, and by gathering advanced sector-specific data to inform the process.



AREA 6: ETHICS AND THE NEW TECHNOLOGICAL REVOLUTION

Thinking about ethics gives us a picture of the broadest implications of technology on society, helps us understand and respond holistically to concerns about its introduction, and enables us to change the culture and best practice of our institutions. On a more practical note, understanding the ethical implications of technology is necessary to support innovation and inform regulatory change. We welcome recent corporate initiatives to consider the responsible development of AI. But ethics and advice on regulation cannot be privatised; government must play a leading role and make sure that the public and all stakeholders are involved.

- We recommend an independent cross-disciplinary **Standing Commission on Ethics and Technology**, which would tackle the toughest ethical and societal implication of new technology and prepare the groundwork for regulation. If pressing ethical issues are not tackled, innovation will be unnecessarily hampered. The remit of the Commission should extend to guidance on **promoting equality, training, regulation, trials, best practice and algorithmic accountability**.
- We recommend **ethics training** as a requirement for those involved in the production process of machine learning technology.
- Workers are also consumers, carers, tax-payers, and recipients of welfare. The increasing use of new data sets and analytics in new business models demands an informed debate on the **ethics, value and exploitation of data**. This debate should cover the use, ownership and protection of personal data in the workplace. We suggest the first step is to require some level of transparency and disclosure about data and algorithm use. Government, working with partners, can then explore ways to shift control of data to people.
- Responsible conduct by corporations beyond strict legal requirements should be encouraged with an emphasis on **leadership in corporate sustainability**, as well as through tax and business rate incentives. Ethically run corporations will volunteer high levels of transparency and accountability, including in the use of algorithms and data analytics. They will pioneer and pilot schemes to create and measure good work, share the benefits of new technology, promote diversity and involve workers in strategic and operational decision-making through transition.
- We recommend developing **kite marks and standards** for old and new business models including online platforms which encourage 'good' and better work practices and adoption of the Good Work Charter. This will enable informed public choice. Responsible conduct should be good for business.

